NASOPHARYNGEAL CANCER: A REVIEW OF CASES AT THE KORLE-BU TEACHING HOSPITAL

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SUMMARY

Nasopharyngeal cancer (NPC) is the second commonest Head and Neck cancer seen at the Ear Nose and Throat (ENT) Unit Korle Bu. Eighty-six patients who were managed for nasopharyngeal cancer from 1st January 1998 to 30th September 2002 were studied retrospectively with respect to age, sex, duration of symptoms at presentation, symptoms complex, histology and stage of tumour, and geographical location of patient. The male: female ratio was 2:1. The age range was 6 – 78 years with a mean of 36.7 ± 18.8 years. The peak age of incidence was 10-19 years. The commonest symptom at presentation was a cervical mass, present in 86% of patients. Majority of the patients (60.4%) were below 40 years. Only 25.6% of patients were seen within 6 months of onset of symptoms. Most of lymph node positive tumours were N3 (64%), 36% of patients had T4 disease and the vast majority, 90.7% had group stage IV disease. Undifferentiated carcinomas formed 62.8% of cases compared to non-keratinizing and keratinizing squamous cell carcinomas that formed 19.8% and 5.8% of cases respectively. Most of the patients originated from the coastal belt.

Keywords: Nasopharyngeal cancer, E-B virus, symptom complex, undifferentiated carcinoma

INTRODUCTION

Nasopharyngeal cancer (NPC) occurs worldwide with a high incidence in South East Asian countries such as China, the Pacific Islands and in the Mediterranean rim countries. It is also common among the Inuit of America and in the West African sub-region but is rare in Caucasians[1,2,3,4,5].

It is the second commonest Head and Neck cancer at the Ear Nose and Throat (ENT) Unit of the Korle Bu Teaching Hospital Accra with a prevalence of 1.2-1.3% of all cancers[6,7]. Aetiological factors include the Epstein-Barr virus, which is also implicated in Burkitts lymphoma in West Africa and infectious mononucleosis[8,9]. Other noted aetiological factors are the eating of foods preserved in salt (fish, eggs, leafy vegetables and roots) during early childhood, as well as a genetic predisposition[8,9].

The diagnosis of NPC is often difficult because of the non-specific nature of early clinical symptoms and the difficulty in visualizing the nasopharynx[10]. Moreover primary lesions can be submucosal and are easily missed by endoscopic examination. Many tumours are detected late or remain undiagnosed until they present as a neck mass representing metastatic lymph node involvement, often without overt pathology at the primary site because of a largely submucosal site. Indeed multiple, "blind" biopsies from the pharynx particularly from the fossa of Rosenmuller are recommended as a way to improve early detection[10].

Despite the late presentation of most cases, treatment is possible with combination chemotherapy and radiotherapy. Wolden SL et al, Smith TL et al have shown that concomitant chemo-radiotherapy with Cisplatin followed by adjuvant chemotherapy with Cisplatin and 5-fluouracil yields better loco-regional control as well as survival for patients with advanced NPC compared with radiotherapy alone[11,12].

The availability of Radiotherapy services at the Korle Bu Hospital since 1997 has made complete treatment regimes available at this hospital and is likely that most diagnosed cases in the country will end up in the facility. Literature on NPC in Ghana is however scanty with few reports by Amoah OK and others[6,7].

The aim of this study was to assess the current size of the problem of NPC in the Ghanaian population and to find out features of the disease at presenta-

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tion that affect morbidity and mortality in cases seen at the Korle Bu Teaching Hospital.

MATERIALS AND METHODS

This was a retrospective study of patients who were managed for nasopharyngeal cancer at the Korle Bu Teaching Hospital over a period of 57 months, from 1st January 1998 to 30th September 2002. The Hospital records of these patients were retrieved and studied.

Data on age, sex, duration of symptoms at presentation, symptom complex, histological type and stage of tumor and area of origin (geographical zone) in the country were collected.

Histological typing and clinical staging were done according to WHO recommended scheme. Metastatic workup included Chest X-rays and ultrasound scan of the abdomen for pulmonary and liver metastasis respectively. Bony metastasis was diagnosed on plain X-ray findings. Whole body bone scan was not routinely performed because it was not available during the period of the study. Analysis was carried out by Epi info software.

RESULTS

A total of 86 cases of nasopharyngeal cancer were studied made up of 57 males and 29 females. The male: female ratio was 2:1.

The mean age was 36.7 ± 18.8 with a range of 6–78 years. Peak incidence was 10-19 years and 60.4% of cases were below 40 years (Table 1).

Table 1 Age Range of patients

Age Range (Years)	Frequency	%
1-9	1	1.2
10-19	21	24.4
20-29	15	17.4
30-39	15	17.4
40-49	11	12.8
50-59	10	11.6
60-69	9	10.5
70-79	4	4.7
Total	**86**	**100**

The commonest symptom at presentation was neck swelling due to cervical lymph node enlargement. It occurred in 86% of patients. This was followed by epistaxis (40.7%), severe headaches (37.2%) otalgia on the side of the lesion (27.9%). Bony metastasis was present in 12.8% of cases (Table 2).

Table 2 Symptom Complex

Symptom	Frequency	%
Neck Swelling	74	86
Epistaxis	35	40.7
Headache	32	37.2
Otalgia	24	27.9
Cranial Nerne Palsy	21	24.4
Hearing Loss	20	23.3
Bony Metastasis-Pain Backache	11	12.8
Nasal Congestion	10	11.6
Change in Voice	8	9.3
Anosmia	1	1.2
Tinnitus	1	1.2
Otorrhoea	0	0

Twenty-two patients (25.6%) were seen within the first 6 months of onset of symptoms; 41.8% from 7 to 12 months and 22.3% presented more than 12 months after the onset of symptoms (Table 3).

Table 3 Duration of symptoms at presentation

Duration(Months)	Frequency	%
0-6	22	25.6
7-12	36	41.8
13-18	7	8.1
19-24	9	10.5
>24	3	3.5
Unavailable	9	10.5
Total	**86**	**100**

Most of the patients (58.1%) were from the costal belt; 21.1% originated from the southern zone (excluding the coast) and only 0.6% from the northern zone.

Table 4 Extent of spread to cervical lymph node

Stage	Frequency	%
No	5	7
N1	4	4.7
N2	10	11.6
N3	55	64
N unknown Nx	11	12.8
Total	**86**	**100**

Majority of cases (93%) were lymph node positive and most of these lymph node positive cases 68.8% were N3 disease at presentation (Table 4). Eleven cases (12.8%) were unclassified because the size of lymph node was not noted.

The commonest finding of the size of the primary tumour was T4 disease forming 36% of cases; followed by T3 (22.2%), T1 (11.6%), T2 (8.1%) and in 19 (22.1%) cases the size of the primary tumour was not noted (Table 5).

Table 5 Size of primary tumour

Size	Frequency	Percent
T1	10	11.6
T2	7	8.1
T3	19	22.2
T4	31	36
T not stated Tx	19	22.1
Total	**86**	**100**

Group staging of the tumours showed no stage 0 and I tumors. There was one Stage II tumors (1.2%); seven stage III tumors (8.1%) and stage IV tumors 66 (67.7%). The stage IV disease includes only patients with T4 N0 M0; T4 N1 M0; T4 N2 M0 and any T N3 M0.

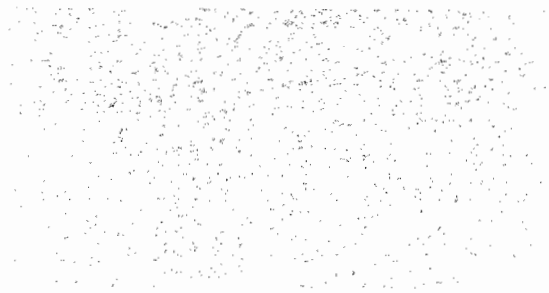

Figure 1 Nasopharyngeal carcinoma: anaplastic "Schmincke type" area (X600)

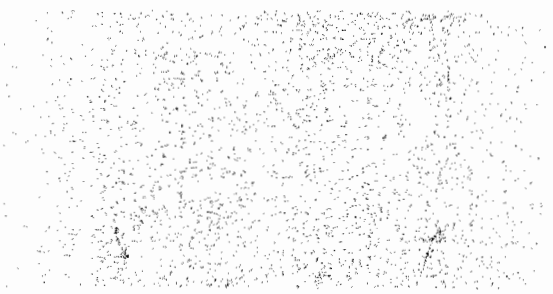

Figure 2 Nasopharyngeal cancer: "Regaud type" area (X400)

Histological appearances of the majority of the tumors (62.8%) were undifferentiated carcinomas (WHO type 3), (Figures 1 and 2) followed by non-keratinizing carcinomas (WHO type 2) 19.8% and keratinizing squamous carcinomas (WHO type 1) 5.8%. There were 10 cases (11.6%) reported as nasopharyngeal cancers without further classification.

DICUSSION

This study showed a male preponderance in patients with Nasopharyngeal cancer with a male: female ratio of 2:1. This is similar to findings of 2:1 by Nwawolo et al[13] in the sub-region and 2.5 :1 elsewhere by Fong KW et al[14].

Nasopharyngeal cancer largely affects a relatively young age group although a study by Chu et al showed a peak incidence in the fourth and fifth decade[15]. The usual age distribution shows a bi-modal curve with the first peak in the 15 to 25 year group and another peak from 60 to 69 years[16,17]. This study confirms the early peak at a lower age group of 10-19 years but fails to demonstrate the second peak. This may be due to the small number of cases in this study.

The commonest symptom of NPC in this study was neck swelling. This is similar to observations by Her C et al[18] who also noted ipsilateral serous otitis media, hearing loss, nasal obstruction, frank epistaxis, bloody rhinorrhoea and facial neuropathy. In this study most of these presenting symptom complexes were seen. Unfortunately the presence of neck swelling did not correlate with early reporting at the hospital as has been noted else where[5,9,10,19].

The reason for the late reporting at the hospital by patients with NPC has been ascribed to many factors. These include the inefficiency of the referral system noted by Oburra et al working in Kenya, delay in diagnosis by primary care physicians and the difficulty in visualizing the nasopharynx[19]. In Ghana, these neck swellings were managed as "boils" by alternate medical practitioners for considerable periods before the patients reported to Hospital. This may be the main reason why only 25.6% of patients who noticed a neck swelling reported to the Hospital within six months and more than one fifth (22.1%) report after a year. There is a traditional belief that any neck swelling is a "boil" (alluding to a furuncle) and should be managed by herbalists. At the hospital the patient will be given injections or worse still will have the "boil" incised which will result in death so the

patients stay away for as long as possible to avoid that death.

The finding that 64% of patients had lymph node size N3 disease and 36% had T4 tumours and also that group stage IV formed 67.7% of cases is most likely a reflection of the late reporting to hospital due to traditional beliefs on the management of neck swellings and the difficulties with the diagnosis of NPC. Health education will therefore play a major role in creating awareness that not all neck swellings are boils and that they may be metastatic disease from head and neck cancers that require hospital care.

Nasopharyngeal cancer among patients from the coastal belt accounted for most (58.1%) of the patients. Since NPC is associated with exposure to food preserved in salt during early childhood[8,9], further studies on the dietary habits of these patients from childhood are needed to confirm possible association with NPC.

Distant metastasis has been reported to present in between 17% and 57% of cases[3,20]. This study showed metastasis in a low proportion of cases (12.8%). The high proportion of subjects with stage IV disease would probably have yielded a higher percentage of bony metastasis if they had all undergone bone scan. This may especially be true considering the fact that the commonest histological type encountered was the WHO type 3 with the highest metastatic potential[21-23].

Data on each of the key features of NPC i.e. duration of symptoms before reporting to hospital, size of primary tumour, size of cervical lymph node hence the stage of lymph node, histological type, were not recorded or were absent from the hospital records in over 10% of patients. This represents a relatively high level of data deficiency although retrospective studies tend to have such deficiencies ranging from 0.5 – 19% of cases[24]. Improvement in data recording and histology typing is recommended since differences exist in the biology and response to treatment of nasopharyngeal tumors.

CONCLUSION

Nasopharyngeal carcinoma affects relatively young age groups. The commonest symptom of NPC is neck swelling due to cervical lymph node enlargement. Nasopharyngeal cancer patients report late to the Hospital. Majority (58.1%) of NPC patients originate from the coastal belt. The commonest histological type is undifferentiated carcinoma. Recording of key features of NPC is inadequate and needs to be improved.

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